

PAPER – 5: STRATEGIC COST MANAGEMENT AND PERFORMANCE EVALUATION

***CASE STUDY ***

Ethical and Non- Financial Considerations

Food & Beverage



1. **Nutty Bites** produces many edible snacks that are very popular especially among children. Peanuts, Peanut oil are essential ingredients in many of its products. They are currently facing this ethical issue –

“Medical studies have indicated peanut allergic reactions are on the rise. The prevalence is more profound among children. Reactions can range from hives around the mouth to potentially life threatening reactions when exposed even to the slightest trace of peanuts. There is growing media campaign to force companies like Nutty Bites to make disclosure about the presence of peanut on its package labelling”

Nutty Bites is a mid-size company that has a growing market. Risk to peanut exposure can come not just from the presence of peanuts in its products. Some of its bought-in ingredients (raw material input) are cooked in peanut oil. There are risks of “cross-contamination” amongst products. Let us say, an equipment has been used produce cookies that has peanuts. Next, the equipment is used, without being cleaned, to produce chips that does not have peanuts as an ingredient. Some portion of the peanuts / peanut oil could contaminate that specific batch of chips produced. Since labels of chips would not mention “peanuts” as an ingredient, it poses a potential risk of causing allergic reaction to a customer unaware of this contamination.

Management of Nutty Bites has called for a meeting to discuss this issue. *“The issue need not be addressed at all. After-all Nutty Bites is doing nothing against the law”* is the opinion of many members on the board of the company.

Required

- (i) EXPLAIN why Nutty Bites should attempt to address this issue.
- (ii) STATE potential benefits that business can garner by addressing this issue.
- (iii) RECOMMEND, with reasons, the avenues available to Nutty Bites to address this ethical issue.
- (iv) EVALUATE the recommended solutions.

Supply Chain Management

2. **Nations' Mart** is the supplier of packed grocery items to local kirana shops and departmental stores under a franchise model. Such local kirana shops and departmental stores are not an exclusive franchisee of Nations' Mart, because certain other items such as veggies, cosmetics, eggs, and bread, etc. which are not offered by Nations' Mart, these local kirana shops and departmental stores are free to buy from other suppliers.

Nations' Mart offers items under its own brand, they purchased these grocery items either directly from manufacturers or from their established suppliers at a significant discount, part of which it passes to such franchisee local kirana shops and departmental stores. It is estimated that such local kirana shops and departmental stores save around 8-12% (of purchase prices) on items supplied by Nations' Mart.

For inbound logistics since its establishment, Nations' Mart relies upon the manufacturer or their established suppliers and in some cases use the service of haulage contractors working on behalf of these manufacturer or suppliers. Nation's Mart purchases items into their large and multi-purpose regional warehouses. Warehouses have facilities for re-package of items in smaller units. Each regional warehouse has designated geographical areas to serve.

Nations' Mart sales representatives conduct the meeting with each franchisee (local kirana shops and departmental stores) after every 8 weeks to decide the weekly standing order quantity for the upcoming 8 weeks. Such weekly standing orders delivered to these local kirana shops and departmental stores through specialist haulage contractors local to the regional warehouse. Such local kirana shops and departmental stores can increase the weekly order through phone or e-mail, but can't reduce their standing order requirements until the next meeting with a sales representative of Nations' Mart.

Required

The board of directors recognised the need to review the supply chain to enhance the brand recognition of Nations' Mart and also address the issue raised by the franchisee regarding inflexible ordering and delivery system. ADVISE the board, how Nations' Mart can re-structure its supply chain presuming it keep on supplying the re-packaged items.

***** CASE SCENARIO*****

Ethical and Non- Financial Considerations

3. **Sprinter Sportswear** is a multi-national company with that has a market presence in 23 countries. Yet, the company does not own even a single factory. Production has been entirely outsourced to 175 factories located in places where cost of operations is low. Factories cater entirely to Sprinter's procurement demands. These factories operate independently, Sprinter plays no role in their operations. Procurement from this supplier network is the stored at distribution centers from where dispatches are made to wholesalers of sportswear and apparel.

Recent news reports from some of the Third World foreign countries have indicated that high child labor employment. Child labor although against the law in these countries is resorted in order to keep cost of operations low. Factories in these countries do not directly employ children. Instead they subcontract the work to contractors. These contractors in turn hire children illegally without the local knowledge of local law enforcement authorities. In addition, working conditions in these factories are very unhygienic and oppressive.



Sprinter initially turned a blind eye to this problem, since it only acts as a customer of these factories. Sprinter, as a company, has done nothing illegal as part of company operations. However, increased focus given to corporate social responsibility, has forced the Board members to consider taking action against such factories.

Required

- (i) DISCUSS why Sprinter sportswear should attempt to address this issue.
- (ii) SUGGEST some of the actions that the company can take to address this issue.

*****QUESTIONS*****

Performance Measurement

Fast Food Company



4. Established in the year 1999, **FF Company** is the pioneer of fast food in Southampton. It delivers a truly fresh, affordable, made to order sandwiches, burger, and other meal in a friendly and relaxed environment. The popularity of the sandwiches, burger etc. continued to grow over the decades but one thing remained the same and that was its core values and principles:
- Always provide exceptional service to valued guests;
 - Provide the highest quality menu items at a price everyone can afford and enjoy; and
 - Keep operating costs low and ensure to have great systems in place and never stop improving.

It provides a comfortable place for people to unwind over interesting conversations. From the beginning, as it continues to grow, it is guided by passion for delighting customers by serving fresh, delicious food right in front of customer.

The performance report* for FY 2021-22 was presented at the management committee meeting as follows:

Particulars	Budget	Actual	Variance
Sales / Production (no. of burgers)	2,00,000	1,65,000	(35,000)
Sales (£)	10,50,000	8,46,450	(2,03,550)
Less: Variable Costs (£)	6,33,000	5,37,075	95,925
Less: Fixed Costs (£)	1,57,500	1,65,000	(7,500)
Profit	2,59,500	1,44,375	(1,15,125)

* burger segment

The Management Accountant of FF believed that the size of the fast-food market deriving the budget number of burgers to be sold is over-estimated. He has computed the value of the sales volume contribution planning variance to be 26,062.50 adverse.

Further, the report also included customer's feedback and the majority of comments were regarding delay in service time. One of feedback was as follows:

"I ordered two burgers at 2:10 pm. After half an hour (30 minutes) of waiting I called the waiter and asked him what happened? he told me that he will check with kitchen. I got the order after 45 minutes of waiting, this cafe is not good in delivery time"

The budgeted data shown in the table is based on the assumption that total market size would be 4,00,000 units.

Required

- (i) PREPARE a reconciliation statement of budgeted profit to actual profit through marginal costing approach in as much detail as possible.
- (ii) EXPLAIN the implications of the reconciliation statement.
- (iii) Management is worried about customer's feedback. ADVISE measures to improve delivery service time.

Ethical Dilemma

5. **Capson Industries** is an electronic company producing office equipment known for the printers which are cost-effective and durable. In order to maintain and improve competitiveness, Capson focuses on strategic cost reduction through continuous improvement. You are a management accountant and practising independently as a freelance consultant. You are hired as a consultant by the management of Capson and currently evaluating whether to outsource the production of a drum (item code D32) used

in its best-selling laser printer or should continue to manufacture in-house in the upcoming year. The outsource vendor quoted the bid price of ₹225 per unit of D32 for the upcoming year.



CAPSON-D32

The product engineer explained to you that the toner cartridge is the container that holds the toner powder. The drum unit is an electrically charged cylinder that fuses that toner powder onto paper to create text and images. Based upon the estimates of the marketing department regarding the number of printers to be sold in the upcoming year, the production head estimates the consumption of 40,000 units of D32.

The cost clerk in the accounts department, provided you with the following information (annual, actual till 24th march and budgeted for a remaining week) pertaining to D32 for the year just about to end.

Product Summary	Cost Summary (Figure in ₹' Lacs)
Product – Laser Drum	Direct material Consumed – 33.975
Product ID – D32	Direct labour paid – 16.47
HS Code – 84439100	Production overhead (other than leases) – 23.72
Build – In house manufacturing	Lease rental of space, plant & equipment – 15.60
Production during year – 36,000 Units	Administration overhead (other than leases) – 6.23

You also gather the information relevant to D32, which signify during the upcoming year–

- Direct material prices and direct labour rate expected to increase by 6% and 5% respectively.
- Leases can be terminated, but the cost of termination will be equivalent to a half-a-month rental. Lease rentals are static over the years for the next three years. Space and plant have sufficient idle capacity to absorb the increase in production.
- 60% and 30% of the production overhead and administration overhead are variable in nature respectively. Rest is fixed and unavoidable. Total variable costs are directly and linearly proportionated to the volume of production. Variable overhead costs expected to increase by 3% due to the inflation effect.

You are crunching the numbers to advise the management, in meantime come across VP-Production who indicates producing D32 in-house will become cheaper in the upcoming year because the production cost will reduce significantly on account of the initiative proposed instead of an increase in it (as quantified by you). Hence advise you to analyse the decision ignoring the increase in the cost of production rather advise to consider them at a level lower than the current level. Basically, his pain is something else, he detests to see the scope of his work at Capson is getting dwindled and don't want the apple of his eye to be laid-off.

Required

- (i) ADVISE the Board, whether to outsource or to produce D32 in-house.
- (ii) You know it is nearly impossible to attain the cost reduction as described by VP-Production in the case of in-house production of D32, but you are also dejected afterthought of possible lay-off which largely depends upon your advice. How you RESPOND to the dilemma.

Transfer Pricing

6. ZAP has three divisions – Z, A and P, which make products Z, A and P respectively. For Division A, the only direct material is product Z and for P, the only direct material is product A. Division Z purchases all its raw material from outside. Direct selling overhead, representing commission to external sales agents are avoided on all internal transfers. Division A additionally incurs ₹ 10 per unit and ₹ 8 per unit on units delivered to external customers and P respectively. A also incurs ₹ 6 per unit picked up from Z, whereas external suppliers supply at A's factory at the stated price of ₹ 85 per unit.

Additional information is given below:

	Figures (₹)/unit		
	Z	A	P
Direct Materials (external supplier rate)	40	85	135
Direct Labour	30	50	45
Sales Agent's Commission	15	15	10
Selling Price (in external market)	110	170	240
Production Capacity (units)	20,000	30,000	40,000
External Demand (units)	14,000	26,000	42,000

Required

DISCUSS the range of negotiation for Managers Z, A and P, for the number of units and the transfer price for internal transfers.

Cost of Quality

7. **K Automobile Group** is among top 20 business houses in India. It has been founded in the year 1930, at the height of India's movement for independence from the British, the group has an illustrious history. K's footprint stretches over a wide range of industries, spanning automobiles (two wheelers manufacturer and three wheelers manufacturer). K's headquarter is located at Hyderabad. Bike Production is one of segment of K Group. Management of K wants to analyse the following actual information for the April:

Cost Data ₹

Customer Complaints Centre Cost	35 per hr.
Equipment Testing Cost	18 per hr.
Warranty Repair Cost	1,560 per bike
Manufacturing Rework Cost	228 per bike

Volume and Activity Data

Bikes Requiring Manufacturing Rework	3,200 bikes
Bikes Requiring Warranty Repair	2,600 bikes
Production Line Equipment Testing Time	1,600 hrs.
Customer Complaints Centre Time	2,000 hrs.

Additional Information

Due to the quality issues in the month, the bike production line experienced unproductive 'down time' which cost ₹ 7,70,000. K carried out a quality review of its existing suppliers to enhance quality levels during the month at a cost of ₹1,25,000.

Required

- (i) PREPARE a statement showing 'Total Quality Costs'.
- (ii) ADVISE any TWO measures to reduce the non- conformance cost.

Special Order Decision

Fire Extinguisher Supplier



8. **FX Co.** is the manufacturer and supplier of firefighting and safety equipment for industrial use and follows the international quality standards and uses the high grade raw material. It is a fast-growing brand that protects millions of people across the India, every single day. FX has been offered a bid on a prospective export contract for 20,000 commercial fire extinguishers with following specification from USA buyer and the delivery terms is FOB.

“two-gallon cylinder holding 10 pounds of multi-purpose dry chemical at 380 PSI”

FX is exporting first time. The price computation per fire extinguisher is as follows:

	₹	₹
Direct Material		
Circle Part Cost	1,240	
Necking Part	60	
Bottom Part	100	
Fire Extinguisher Powder	1,180	
Heat Process	100	
Nozzle	120	
Meter	40	
Pipe	100	
Nitrogen	60	3,000
Direct Labor (2 hrs. × ₹80)		160
Leakage Testing		100
Variable Overheads (including packing)		428
Export Clearance Charges on FOB term		72
Fixed Overhead		200
Total		3,960
Add: Markup @ 10%		396
Price		4,359
USD to INR		79.9
Price in USD		54.52

After quotation of USD 54.52, the buyer is negotiating the price and ready to pay only USD 48.

Required

ADVISE whether it is worth accepting at USD 48 considering other factors.

Life Cycle Costing

9. **Mould & Dies (M&D)** was established in 1980 and has enormous wealth of experience in the mould manufacturing industry and serves wide range of plastic moulds all over nation. Over the past decade, M&D has developed the reputation for quality products & services for customer focused approach. It deals in injection moulds, blow moulds, die sets, moulds base etc.

With a state-of-the-art infrastructure facility, M&D is able to meet the qualitative and quantitative demands of its clients. Its vision & mission is to provide high class manufactured products by using best quality raw materials.

M&D has developed a new product “M” which is about to be launched into the market and anticipates to sell 80,000 of these units at a sales price of ₹300 over the product’s life cycle of four years. Data pertaining to product “M” are as follows:

Costs of Design and Development of Molds, Dies, and Other Tools	₹8,25,000
Manufacturing Costs	₹125 per unit
Selling Costs	₹12,500 per year + ₹100 per unit
Administration Costs	₹50,000 per year
Warranty Expenses	5 Replacement Parts per 25 units at ₹10 per part; 1 Visit per 500 units (Cost ₹500 per visit)

Required

- (i) COMPUTE the product “M”’s ‘Life Cycle Cost’.
- (ii) SUGGEST two ways to maximize “M”’s lifecycle return.

Note: Ignore time value of money

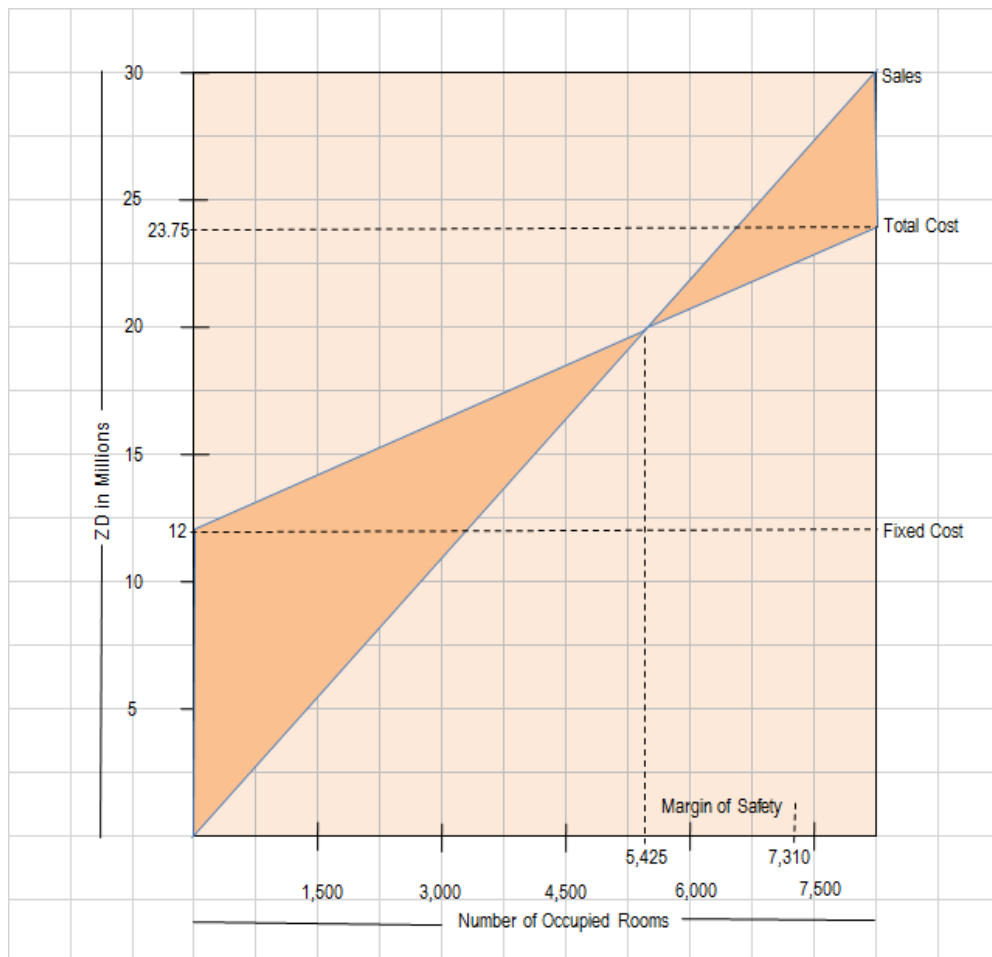
CVP Analysis

10. **Hotel Nikko**, Zeeland, an affordable leisure hotel resort is an ideal retreat to escape, unwind and enjoy peace of mind. Set amid expansive tropical greenery in the enclave of Zeeland, Hotel Nikko is designed for pleasure, where services reign supreme and Italian-style architecture of its 25 classic rooms harmonize with nature. Hotel Nikko, Zeeland is a beachfront resort that features a good choice of swim-up pool bar, gym, and variety of restaurants. A wide array of water sport activities like surfing, sailing, jet skiing etc. are available from beach operators at walking distance. The hotel is synonymous with enjoyment and value for money, with a large choice of very attractive “All Inclusive” packages.

Nikko charges guests ZD 2,700 per room per night, irrespective of single or double occupancy. The variable cost is ZD 900 per occupied room per night. The Nikko is available throughout 365 days a year and has a 75% budgeted occupancy rate. Fixed costs are budgeted at ZD 9 million and are incurred evenly during the year.

During the second quarter (Q2) of the year, usually the room occupancy rates remains substantially below the levels expected at other quarters of the year. Nikko is expecting to sell 900 occupied room nights during Q2. Management is considering strategy to improve profitability, including closing the Nikko for the duration of Q2 or adopting one possible option as follows –

There is scope to extend the Nikko by creating enough space to run a Rustic Chic, Italian Style restaurant to serve its guests. The annual revenues, costs and sales volumes for the combined operations are given in the following graph–



Note

Zeeland’s home currency is the ZD.

Required

ANALYZE the profit improvement plan.

Balanced Scorecard

11. **B. Steels** is a leading manufacturer of flat and long products and have state-of the-art plants. These plants manufacture value added products covering entire steel value chain right from coal mining to manufacturing Pig Iron, Billets, HR Coils, Black Pipe/GI Pipe, Cable Tapes etc. conforming to international standards. The rock-solid foundation combined with nonstop upgradation and innovation has enabled the B. Steels to surpass its goals constantly. Its vision and values for sustainable growth is balancing economic prosperity and social equality while caring for the planet. It is preparing its balanced scorecard for the year 2021-22. It has identified the following specific objectives for the four perspectives.

▪ Improve post-sales service	▪ Improve employee morale	▪ Improve employee job satisfaction
▪ Increase gross margin	▪ Increase number of customers	▪ Increase profitability of core product line
▪ Increase plant safety	▪ Increase customer retention	

B. Steels has collected Key Performance Indicators (KPIs) to measure progress towards achieving its specific objectives. The KPIs and corresponding data collected for the year 2021-22 are as follows:

Key Performance Indicator	Goal	Actual
Average replacement time (number of days)	2	1.5
Gross margin growth percentage	15%	16%
Number of customers	15,000	15,600
Number of plant accidents	0	2
Percentage of repeat customers	83%	81%
Core product line profit as a percentage of core-product line sales	5%	4.4%
Employee turnover rate (number of employees leaving/ Average number of total employees)	2%	3%
Employees satisfaction rating (1-5, with 1 being the most satisfied)	1	1.2

For preparation of Balanced Scorecard report, the following format has been developed:

B. Steels					
Balanced Scorecard Report					
For the year ended March 31, 2022					
Perspective	Objective	KPI	Goal	Actual	Goal Achieved (Yes or No)
Financial	x	x	x	x	x
Customer	x	x	x	x	x
Internal Business Process	x	x	x	x	x
Learning and Growth	x	x	x	x	x

Required

- (i) PREPARE a balanced scorecard report using the above-mentioned format. Place objective under the appropriate perspective heading in the report. Select a KPI from the list of KPIs that would be appropriate to measure progress towards each objective.
- (ii) B. Steels desires to integrate sustainability and corporate social responsibility related KPIs in their balance scorecard to adhere vision and values. ADVISE B. Steels, using TBL framework.

Pricing Decision

12. The Gifts Company makes mementos for offering chief guests and other dignitaries at functions. A customer wants 4 identical pieces of hand-crafted gifts for 4 dignitaries invited to its function.

For this product, the Gifts Company estimates the following costs for the 1st unit of the product.

Particulars of Costs	₹ / unit
Direct Variable Costs (excluding labour)	2,000
Direct Labour (20 hours @ ₹ 50 hour)	1,000

90 % learning curve ratio is applicable and one labourer works for one customer's order.

Required

- (i) CALCULATE the price per piece to be quoted for this customer if the targeted contribution is ₹ 1,500 per unit.
- (ii) If 4 different labourers made the 4 products simultaneously to ensure faster delivery to the customer, can the price at (i) above be quoted? COMMENT.

SUGGESTED ANSWERS

1. (i) Modern organizations have a moral duty of care to a *wider range of stakeholders* not just its owners / investors. In this case, it owes a duty of care to anybody who consumes its products. The presence of peanuts or peanut oil makes it a potential “health hazard” to some consumers. Food safety is a fiduciary duty that Nutty Bites owes to the society. Corporate Social Responsibility (CSR) is the duty an organization has towards a wider community.
- (ii) Addressing this ethical issue will help Nutty Bites to become a *morally responsible organization*. The long- term benefits to its business could be as follows:
 - (a) Avoid bad publicity that could potentially damage its *reputation* and *brand image*.
 - (b) Avoid potential *legal action* for tort, committing a civil wrong.
 - (c) Operating environment within the business is more ethical, giving a *sense of well-being* to its employees.
- (iii) Following could be some of the responses that Nutty Bites could take to address the issue:
 - (a) A *clear warning in the ingredients box* that the factory uses peanuts while manufacturing some of its products. This should be included even in products that do not contain peanuts, to avoid any harm due to risk of cross-contamination. Customers who suffer this allergy, would then be aware of the potential risk of consuming products of Nutty Bites. Protection from potential lawsuits counters any loss of business for Nutty Bites.
 - (b) Segregate areas to have *separate processing lines* for products with peanuts / peanut oil and those without it. If possible, have segregated staff for the two production lines in order to avoid the risk of cross-contamination. If this is not possible, staff have to be well trained on the risks of cross-contamination. Gloves need to be provided while handling material during production of food products. This should be changed each time staff handle production changes from “peanut variety” to the “non-peanut variety”.
 - (c) Equipment should be *thoroughly cleaned* while switching production from one variety to another. *Fewer changeovers* in the production cycle, that is producing products in larger batches, reduces the number of switches during production of different varieties of food products.
 - (d) *Storage of peanut material* should be well segregated *and* monitored to avoid contamination.
 - (e) If Nutty Bites has the resources, it could *invest in pharma companies* that are finding a medical solution to this problem. The food industry could benefit from research and development of treatments to address this life-threatening

allergy. A break-through would address a societal problem, while also having a positive impact for growth of Nutty Bites.

- (iv) Risk of product safety is an important issue that needs constant review. Review would be of the production process, storage, material handling as well as ingredient of purchased raw materials. The benefit of constant review is that Nutty Bites can *immediately identify danger of contamination*. For example, if a supplier of raw material changes the production of the ingredients to include peanut / peanut oil, then Nutty Bites can be immediately aware of the change due to its review process. In case of any future litigation, Nutty Bites could defend itself by proving that it had a robust review process in place.

On the other hand, constant review requires *time* and *money*, with an ever-present possibility of contamination. It is not feasible to ensure complete safety. Reviewers / quality inspectors could become negligent once the process is well established. This could lead to instances of contamination, even with a review process in place.

To conclude, Nutty Bites is morally responsible to *spread awareness* that some of its products may contain allergy causing peanuts / peanut oil. It should streamline its storage and production process to avoid risk of cross-contamination.

2. The **supply chain** is a network that consists of the flow of materials, goods, and related information among manufacturers, suppliers, retailers, and consumers. The supply chain can be divided into two parts based upon flow, directions, or source and destination. Towards the supplier side, it is termed as **Upstream Supply Chain** and towards the consumer side, it is termed as **Downstream Supply Chain**.

Nations' Mart can enhance its brand recognition through Upstream Supply Chain Management in the following ways–

Process of placing the order

Nations' Mart should review the process of placing the order, ***e-procurement shall be introduced*** to the possible extent and information shall be shared with the manufacturers and suppliers allowing the suppliers' access to forecast demand. Which in turn reduces costs and improves the efficiency of the supply chain at suppliers' end and the same will benefit Nations' Mart for sure.

Note - This will lead to an *extended value chain* that will be capable to generate enhanced value.

Inbound logistics

Nations' Mart can revamp its logistics in either of the following ways–

- i. *Develop in-house logistics capabilities* – Nations' Mart can look forward to owning the trucks and tempos to develop in-house logistics capabilities, it can apply its logo on the entire fleet this will enhance the brand visibility.
- ii. *Use third-party logistics* rather than manufacturers and their established suppliers and that too in conjunction with a review of its outbound logistics.

The cost of inbound logistics can be offset by reduced prices (FOB rather than CIF) by such manufacturers and their established suppliers.

Note– a detailed cost-benefit analysis shall be conducted to assess whether these options are financially viable.

Outsourcing of the warehousing and re-packaging

Nations' Mart may look for an ***integrated logistic partner*** who also offers storage and warehousing solutions, since it will be a large contract (especially, if consolidated for all the warehousing needs of Nations' Mart), for any integrated logistic partner hence able to ***negotiate a good price***.

Note– It is a strategic decision because if the warehousing and re-packaging are outsourced then Nation's Mart can strategically reposition itself and focus on brand awareness, hence further ***critical evaluation of core capabilities and competencies*** is required.

Nations' Mart can enhance its brand recognition and address the issue raised by franchisee regarding inflexible ordering and delivery system through Downstream Supply Chain Management in the following ways–

Shift to pull model of the supply chain

The inflexibility of the ordering and delivery system can be eliminated, if Nations' Mart shifts to the pull model of the supply chain. This enables the franchisee (local kirana shops and departmental stores) to have ***flexibility while ordering (quantity and time)*** to match their need as per actual demand.

Note– This may result in ***low overall demand***, which may cause Nations' Mart ***not able to get the same substantial discount*** which earlier it is getting from manufacturers or from their established suppliers.

But if the ***existing practices continued*** then Nations' Mart ***may lose some of the franchisee*** (local kirana shops and departmental stores), hence cost-benefit analysis is essential.

Use of IT solution

In order to streamline the downstream supply chain, Nations' Mart need to use IT solution (especially if the shift to the demand-driven system) for following purposes–

- i. To collect and consolidate the orders from the local kirana shops and departmental stores for each Item individually and further place the order accordingly.
- ii. Use of E-POS (electronic point of sale) at local kirana shops and departmental stores to have an ***overview of sales information, stock level, and customers' buying habits and trends***. This will auto streamline the ordering and distribution. This will result in an extended value chain, hence, may be able to generate greater value for customer.

Note– If IT is used extensively then Nations’ Mart can directly reach consumers through the **E-Commerce platform**. The terms of the **franchise agreement need to be analyzed** to judge the viability of direct sales by Nations’ Mart.

Note– If local kirana shops and departmental stores allowed to place orders online then the **sales representative** which earlier responsible for meeting with these local kirana shops and departmental stores **can be deployed for marketing and branding activities**.

Outbound logistics and distribution arrangements

As mentioned earlier Nations’ Mart can club the contract regarding inbound and outbound logistic requirements to negotiate with the logistic contractors. In regard to outbound logistics specifically, rather than relying upon local haulage contractors for regional warehouses, *Nations’ Mart can go for one single integrated logistics company*. This single contract will afford **economies of scale**.

As mentioned earlier too **own logistic abilities** can be developed by owning a fleet of vehicles which can be used for *greater brand visibility* by putting the logos and advertisement material on such vehicles. **Scheduling of routes** shall be done scientifically using some operation research methods such as *transportation and linear programming*.

Note– The costs and benefits analysis shall be performed before a decision on such a change.

3. (i) Work can be outsourced to locations to countries on the other side of the globe, in order to achieve *low cost advantage*. A company *may not be directly responsible* for faulty practices of its suppliers. However, modern organizations have a *moral duty* of care to a *wider range of stakeholders* who may not directly be related to the company. In this case, it owes a duty of care towards employees hired by factories within its *supply chain*. The issue it is dealing with relates to exploitation of child workers by factories, perpetrated by sub-contracting work to third party workers. While Sprinter sportswear has *not done anything illegal*, it owes *moral responsibility* towards these children. Children have a right to education, because of which child labor is illegal in most countries. Since children are employed directly on account of the work that has been outsourced, Sprinter should attempt to address this issue. Also, any negative news about how its products are made, could *impact its business*.
- (ii) Sprinter should aim to make its products responsibly. Some actions it can take are:
 - Sprinter can develop a *Code of Conduct* that details the acceptable standards of conducting business. These standards could relate to hiring practices, of which it can specify that workers should be above a particular age to be employed for manufacturing a product. Others could relate to workplace environment, safety, and environment sustainability. Sprinter should *insist that suppliers implement these Codes of Conduct* along with other complying with

laws. It should insist that the supplier be open to *periodic inspection* by Sprinter to ensure compliance with standards as per its Code.

- Sprinter can set up an *audit team* that regularly audits factories on the pre-sourcing and follow-up stages. Sprinter should do business only with those factories are complying with its standards. Any offenders to the Code of Conduct in the follow-up stages, should be appropriately be liable to *penalty* or *termination of contract* for serious offenses.
- Sprinter can *list on its website* location wise suppliers from whom it procures its products. It can even give information about products made by each of its suppliers, average age, worker diversity etc. This will enable watch groups to know who the suppliers are and warn the company if there are any labor issues within these factories.

4. (i) **Statement of Reconciliation - Budgeted Vs Actual Profit**

Particulars	£
Budgeted Profit	2,59,500
Less: Sales Volume Contribution - Planning Variance (Adverse)	26,062.50
Less: Sales Volume Contribution - Operational Variance (Adverse)	46,912.50
Less: Sales Price Variance (Adverse)	19,800
Less: Variable Cost Variance (Adverse)	14,850
Less: Fixed Cost Variance (Adverse)	7,500
Actual Profit	1,44,375

Workings

Basic Workings

$$\text{Budgeted Market Share (in \%)} = \frac{2,00,000 \text{ units}}{4,00,000 \text{ units}} = 50\%$$

$$\text{Budgeted Contribution} = \text{£}10,50,000 - \text{£}6,33,000 = \text{£}4,17,000$$

$$\begin{aligned} \text{Average Budgeted Contribution (per unit)} \\ = \frac{\text{£}4,17,000}{2,00,000} = \text{£}2.085 \end{aligned}$$

$$\begin{aligned} \text{Volume Contribution Planning} = & \text{Budgeted Market Share \%} \times (\text{Actual Industry Sales Quantity in units} - \text{Budgeted Industry Sales Quantity in units}) \times (\text{Average Budgeted Contribution per unit}) \end{aligned}$$

$$\begin{aligned} \Rightarrow \text{£}26,062.50 \text{ (A)} &= 50\% \times (\text{Actual Industry Sales Quantity in units} - 4,00,000 \text{ units}) \times \text{£}2.085 \\ \Rightarrow \text{Actual Industry Sales Quantity} &= 3,75,000 \text{ units} \\ \text{Actual Market Share (in \%)} &= \frac{1,65,000 \text{ units}}{3,75,000 \text{ units}} = 44\% \\ \text{Standard Sales Price per unit} &= \frac{\text{£}10,50,000}{2,00,000} = \text{£}5.25 \\ \text{Actual Sales Price per unit} &= \frac{\text{£}8,46,450}{1,65,000} = \text{£}5.13 \\ \text{Standard Variable Cost per unit} &= \frac{\text{£}6,33,000}{2,00,000} = \text{£}3.165 \\ \text{Actual Variable Cost per unit} &= \frac{\text{£}5,37,075}{1,65,000} = \text{£}3.255 \end{aligned}$$

CALCULATION OF VARIANCES**Sales Variances**

$$\begin{aligned} \text{Volume Contribution Operational} &= (\text{Actual Market Share \%} - \text{Budgeted Market Share \%}) \times (\text{Actual Industry Sales Quantity in units}) \times (\text{Average Budgeted Contribution per unit}) \\ &= (44\% - 50\%) \times 3,75,000 \text{ units} \times \text{£}2.085 \\ &= \text{£}46,912.50 \text{ (A)} \\ \text{Price} &= \text{Actual Sales} - \text{Standard Sales} \\ &= \text{Actual Sales Quantity} \times (\text{Actual Price} - \text{Standard Price}) \\ &= 1,65,000 \text{ units} \times (\text{£}5.13 - \text{£}5.25) \\ &= \text{£}19,800 \text{ (A)} \end{aligned}$$

Variable Cost Variances

$$\begin{aligned} \text{Cost} &= \text{Standard Cost for Production} - \text{Actual Cost} \\ &= \text{Actual Production} \times (\text{Standard Cost per unit} - \text{Actual Cost per unit}) \\ &= 1,65,000 \text{ units} \times (\text{£}3.165 - \text{£}3.255) \\ &= \text{£}14,850 \text{ (A)} \end{aligned}$$

Fixed Cost Variances

$$\begin{aligned}
 \text{Expenditure} &= \text{Budgeted Fixed Cost} - \text{Actual Fixed Cost} \\
 &= \text{£1,57,500} - \text{£1,65,000} \\
 &= \text{£7,500 (A)}
 \end{aligned}$$

(ii) Implications of Reconciliation Statement

In the revised statement, the sales volume variance has been detailed by the way of two variances i.e. planning and operational variances. This kind of detailed information assists the company to check, which kind of variances are under the management control and which are not. FF has adverse volume contribution planning variance and the reason of could be the environmental / market changes, that was not anticipated at the time of budget preparation, so they are not under management control and hence, no one is responsible for this. On the other hand, the sales volume contribution operational variance was under control of the managers and they should be held responsible for the same. The reason of adverse sales volume contribution operational variance could be unsuccessful direct selling efforts/marketing efforts. FF has adverse sales price variance as well. It indicates that the burgers were sold for lower price than standard. The reason of this could be unforeseen market competitive price, tapping new market etc.

Further, revised reconciliation statement delivers little information about the variable cost and fixed cost variances. They both are adverse. Fixed cost consists of many items such as salaries, annual maintenance cost, rent and insurance etc. Often fixed cost items are not affected in short run in response to change in the level of activity, but they might change in response to other factors such as price. This may cause increase expenditure on fixed overheads. A meaningful analysis of fixed cost variance requires a line to line comparison of budgeted cost with actual cost.

In case of FF, the variable cost may be made up of large individual different items such as vegetables, compressed natural gas, indirect labor, regular maintenance cost etc. Control of variable cost also requires line by line analysis for each individual item. The adverse variable cost variance simply reveals that FF incurred more on variable cost than expected. However, it is necessary to take into consideration the causes of this adverse variance which is beyond the control of the management, for instance, the unusual price hike in vegetables in case of unseasonal rainfall.

(iii) Measures to Improve Fast Food Delivery Service Time

Customers expect that their food order to be delivered quickly. From customer's feedback in the question, it is evident that FF has a problem in food delivery, due to which, customers go unsatisfied. The reason of late delivery could be non-availability of raw material on time or employees not working properly etc. The

reason of employees not working properly could be job dissatisfaction which may be due to improper working conditions, low salary, or no reward for overtime etc.

In order to reduce delivery time, raw material should be made available in stock based on daily requirement. FF may follow quantitative approach to inventory problems, which lays down clear guidelines that when to re-order or alert the management in exceptional situations.

In addition, FF must also address the issues related to employee and involve them in a loop. FF could improve the employee satisfaction with proper working conditions, better pay, training, and growth opportunities.

Moreover, it is important that customers should be informed about approximate delivery time since this will reduce customer's anxiety and will proactively reduce any complaints over long waits for delivery of food. If unexpected delays occur, it is important to communicate with customers, apologies for the delay and inform them about the new approximate delivery time along with valid reason.

In addition to this, FF can also introduce pagers or install electronic board displaying ticket number or self-serve kiosk allowing customers to roam around or order in advance so that they do not have long waiting time.

5. (i) Outsource or produce D32 in-house

Since 40,000 units of D32 are required in the upcoming year, hence comparison of cost shall be made using relevant cost pertaining to the upcoming year for 40,000 units.

Cost of outsourcing

Particulars	Amount (in ₹)
Cost of purchase (40,000 units @ ₹225 each unit)	90,00,000
Cost of terminating lease agreements [(15.60 lacs /12 months) × 1/2]	65,000
Total Cost	90,65,000

Cost of in-house-production

Particulars	Amount (in ₹)
Direct material cost [(33.975 lacs × 1.06) × 40,000 units/ 36,000 units]	40,01,500
Direct labour cost [(16.47 lacs × 1.05) × 40,000 units/ 36,000 units]	19,21,500

Production overhead [(23.72 lacs × 0.6 × 1.03) × 40,000 units/ 36,000 units]	16,28,773
Lease Rental	15,60,000
Administration overhead [(6.23lacs × 0.3 × 1.03) × 40,000 units/ 36,000 units]	2,13,897
Total Cost	93,25,670

Since the calculations show there is a saving of ₹2,60,670 (93,25,670 – 90,65,000) if production of D32 is outsourced, rather than producing in-house; hence considering monetary information it is worthwhile to outsource the production of D32. However, prior to make any decision management should consider the following **non-financial considerations** also–

Reliability of outsourcing vendor in terms of–

- (a) Quality of D32 – The quality of D32 delivered by outsourcing vendor must be at par or better than the quality achieved from in-house production.
- (b) Continues and timely supply of D32 – Supply of D32 shall be continues and on time as per production schedule, else haphazard supply can obstruct the production schedule and deliveries as Capson.
- (c) Ability to supply entire requirements – There is a requirement of 40,000 unit of D32 at Capson, the outsource vendor must be capable and ready to supply the entire need of 40,000 units (only then lease rentals can be saved).

Impact inside Capson in terms of–

- (a) Possible lay-offs – Lay-off has legal implications as well as an enhanced financial burden in form of compensation cost (against the loss of employment)
- (b) Employee morale – Lay-off or shift of idle staff from one department to another will result in low employee morale, which will result in low productivity (but if employee/workers union are strong then may lead to strike etc.)
- (c) Control over value chain – D32 may or may not be key component according to the engineering department, but Capson need to see from customers perspective if it is component which enhances the overall value of printer which customer look at then need to be produced in-house (capability shall be enhanced for better quality). If a non-value-added component, then can be outsourced to spare the time in order to focus on strategic aspects.

Apart from these factors, the commercial aspects such as confidentiality, technical know-how, termination of lease as well as relations with lessor and change in market forces (suppliers’ bargain power) shall also be considered.

(ii) Respond to the dilemma

Since it is an **ethical dilemma**, hence the resolution can be best guided by fundamental ethical principles for accounts professionals. Principle of integrity, objectivity, due diligence, and professional behaviour applies here.

Following the *principle of Integrity*, management shall be informed and advised fairly, further considering the *objectivity*, the biased advice, indications and descriptions of VP-production shall be ignored completely. The recommendation to management shall be based purely on facts and fair estimates which are collected and analysed with due diligence.

Maintaining professional behaviour and independence, fair recommendations shall be submitted to management at Capson ignoring the personal dejection and verbal inducements of VP-production. Recommendation to management may include the plausible impact and effects of the decision.

6. **DISCUSSION** - Manager of Division Z will sell 14,000 units outside at ₹110 per unit and earn contribution of ₹3.50 lakhs*. Excess capacity of 6,000 units can be offered to Division A at a price between ₹70 (variable manufacturing cost to Division Z) and ₹95 (selling price net of commission). But Division A can get the material outside at ₹85. So, Division A will not pay to Division Z anything above ₹79 (₹85 – ₹6) to match external available price.

Division Z will be attracted to sell to Division A only in the range of ₹71 – ₹79 per unit at a volume of 6,000 units. At ₹70, Division Z will be indifferent, but may offer to sell to Division A to use idle capacity. **[Or ₹71 – ₹79]**

Division P will not buy from Division A at anything above ₹135. If Division Z sells to Division A at 70 per unit, Division A can sell to Division P at ₹134# and earn no contribution, only for surplus capacity and if units transferred by Division Z to Division A at ₹70 per unit.

	Division A	Division P
Provided Division Z sells to Division A at ₹70 per unit	Sell 4,000 units to Division P at ₹134 (Indifferent)	Buy 4,000 units from Division A at ₹134 (attracted)
	Sell 4,000 units to Division P at ₹135 (Willingly for a contribution of ₹1)	Indifferent, since market price is also ₹135

For buying from Z at ₹71 – ₹79 price range, A will be interested in selling to P only at prices ₹135 – ₹143, which will not interest P.

Thus A will sell to P only if Z sells to A at ₹70 per unit and A will supply to P maximum 4,000 units.

* $(₹110 - ₹40 - ₹30 - ₹15) \times 14,000$

$(₹70 + ₹6 + ₹50 + ₹8)$

7. (i) Statement Showing 'Total Quality Costs'

Particulars of Costs	₹
Prevention Costs	
Supplier Review	1,25,000
Appraisal Costs	
Equipment Testing (₹18 × 1,600 hrs.)	28,800
Internal Failure Costs	
Down Time	7,70,000
Manufacturing Rework (₹228 × 3,200 bikes)	7,29,600
External Failure Costs	
Customer Complaints (₹35 × 2,000 hrs.)	70,000
Warranty Repair (₹1,560 × 2,600 bikes)	40,56,000
Total Quality Costs	57,79,400

- (ii) The reporting of quality costs highlights the *cost of quality activities* at K. The total quality costs statement clearly displays the relationship between conformance costs (prevention and appraisal costs) and non-conformance costs (internal failure and external failure costs) and the drivers of a reduction in the overall spending on quality. Statement indicates that only 2.16% of the total quality cost is the cost of preventing quality problems while 0.50% is the cost of appraisal activities. Thus, prevention and appraisal costs make up only 2.66% of total quality costs. In contrast, 97.34% of quality control costs are incurred for internal and external failure costs. Following two measures can be used to reduce non-conformance cost:

Total Productive Maintenance (TPM) is a system of maintaining and improving the integrity of production and quality system through *keeping all equipment in top working condition* so as to avoid breakdowns and delays in manufacturing processes. It involves identifying machines in every division (including planning, manufacturing, maintenance) and then planning & executing a maintenance programme covering their entire useful life.

In this scenario, TPM will help in reducing internal failure cost (i.e. downtime and manufacturing rework cost), which constitutes 25.95% of total quality cost, by keeping all equipment in good working conditions so that there is no downtime or machine breakdown and ensuring that all equipment run smoothly. If machines work properly, the chances of rework will reduce, ultimately will also reduce chances of warranty repair and customer complaints (comprising 71.39% of total quality cost which is the major part of total quality cost).

Total Quality Management (TQM) aims at improving the quality of organisational output, including goods and services, through *continual improvement* of internal practices. Its objective is to eradicate waste and increase efficiency without compromising with the quality. It requires that company maintain this quality standards in all aspects of business by ensuring that things are done right the first time so that defects and waste are eliminated from operation.

It appears that K is not a TQM company at present due to *huge disparity between conformance costs and non-conformance costs*. In order to make K to be successful, all staff at K must be engaged in the improvement process and share in the continuous improvement ethos. In order to establish a reputation as a high-quality bike manufacturer K must ensure staff are focused on quality *and* attitudes changed toward the importance of conformance activities, for instance, K can conduct third party inspection of raw material at supplier's workplace leading to maintenances of quality standards.

Overall, while applying above two measures, in the K, consideration must therefore be given to the *optimum balance* between the costs of conformance and the costs of non-conformance.

8. Workings

Statement Showing Benefit from Prospective Export Contract

	₹
Direct Material	3,000
Direct Labor (2 hrs. × ₹40)	160
Leakage Testing	100
Variable Overheads (including packing)	428
Export Clearance Charges on FOB term	72
Total Relevant Cost	3,760
USD to INR	₹79.9
Relevant Cost	\$47.06
Price Offered by Customer	\$48.00
Benefit <i>per extinguisher</i>	\$0.94
No. of Extinguishers	20,000
Total Benefit	\$18,800

Advise

From financial perspective, it will be profitable for FX to accept the contract because of gain of \$18,800 (₹15,02,120) along with export incentives of drawback. Besides this, following consideration should also be taken into consideration while exporting fire extinguishers:

Statutory Compliances

Before exporting to a foreign country or even agreeing to sell to a new customer in a foreign country, FX should be aware of foreign laws that might affect the sale. Export documentation is important as it plays a significant role in regulating the flow and movement of goods in international markets. Each country has its own prescribed statutory documents to be complied by exporters and importers. Thus, FX should consider about the documentation and inspection compliances part of new buyer. It may include third party audit, commercial invoice and packaging list requirements, certificate requirements like- no child labour certificate, inspection certificate, reach compliance certificate etc. If any compliance requirement is not met, what will be the consequences? There may be stiff penalty has to be paid owing to non-compliance or failure to accurately comply with the export obligation.

Buyer Creditworthiness

It is necessary that before shipment the exporter to carry out its own credit check on the importer to determine creditworthiness. Thus, FX should make a proper assessment of the creditworthiness of the foreign buyer and spend sufficient time in cross checking the credit worthiness of his counterpart to avoid any kind of unforeseen situation in future. Such information can be easily availed through contracts or through ECGC. Private agencies also provide information on paid service basis. However, this risk can be covered by asking for LC payment terms or 100% advance or opting for post shipment insurance for goods being exported.

Industry Analysis

Industry analysis involves such things as assessing the competition in the industry; the interplay of supply and demand in the industry; how the industry holds up against other industries that are emerging and providing competitions; the likely future of the industry, especially in light of technological developments; how credit works in the industry; and the exact extent of the impact that external factors have on the industry.

For FX, it is worthwhile to know the current and future demand of fire extinguisher and factors influencing the growth of global fire extinguisher market. FX can perform industry analysis through three main ways i.e. the Competitive Forces Model (also known as Porter's 5 Forces); the broad factors analysis, also known as PEST analysis; and SWOT Analysis. It may also arrange industry report from trusted sources.

Additional Terms

Ensure that the all terms are clear and suit the business purpose. For instance, delivery terms should provide date of shipment or means of determining the date. In some circumstances, a late delivery penalty may be incurred where goods are not supplied by a specific delivery date. Therefore, FX should evaluate whether shipment date is attainable or not. If the target shipment date could not be met, what will be the charges?

Further, FX must also check whether the foreign bank charges are subject to beneficiary account. If yes, then the same must be considered in the quotation.

Overall, FX should accept the proposed contract only after due and careful consideration of above factors.

9. (i) **Statement Showing “M’s Life Cycle Cost (80,000 units)”**

Particulars	Amount (₹)
Costs of Design and Development of Molds, Dies, and Other Tools	8,25,000
Manufacturing Costs (₹125 × 80,000 units)	1,00,00,000
Selling Costs (₹100 × 80,000 units + ₹12,500 × 4)	80,50,000
Administration Costs (₹50,000 × 4)	2,00,000
Warranty (80,000 units / 25 units × 5 parts × ₹10)	1,60,000
(80,000 units / 500 units × 1 visit × ₹500)	80,000
Total Cost	1,93,15,000

(ii) Following ways are suggested to maximize “M” lifecycle return:

R&D Costs

Often significant part of cost is incurred at the R&D phase of new product, hence M&D should carefully plan and design its new product “M” as it will determine the number of parts, production process to be used etc. M&D can apply **value engineering** here. It involves improving product quality, reducing product costs, fostering innovation, eliminating unnecessary and costly design elements, ensuring efficient investment in product, and developing implementation procedures. Value engineering is most successful when it is performed early in product development stage. A value engineering study should be performed within the first 25-30% of the design effort prior to selecting the final design alternative. Here, it is also important that R&D team should work as a part of cross functional team i.e. (participate in a group of people from different functional areas), to minimise lifecycle cost and the production cycle time in new development.

Speed up the Product Launch

In cut throat competitions, it is important for M&D to get new product ‘M’ launch into the market as soon as possible since this will give “M” a **long stay** in the market place *without competition* in the market. Competitor always try to launch a rival product as quickly as possible in order to gain ‘competitive edge’. M&D may lose overall profitability if it delays in launching of Product ‘M’. It is usually worthwhile incurring extra costs to keep the launch on schedule or to speed up the launch.

10. The Present Profit of Hotel Nikko

Total Room Days = 25 Rooms × 365 days × 75% = 6,844

Profit = Total Contribution – Fixed Cost

= 6,844 room days × (ZD 2,700 – ZD 900) - ZD 90,00,000

= ZD 33,19,200

If Nikko is Shut Down during Q2

Loss of Contribution {900 Room Days × (ZD 2,700 - ZD900)} = ZD 16,20,000

Nikko should not close its hotel during Q2. The fixed costs will still be incurred and hotel closure would result in lost contribution of ZD16,20,000. This in turn would decrease annual profits by ZD16,20,000. In addition, Nikko could lose guests at other quarters of the year, particularly their regular business customers, who may perceive the Nikko as being *non-reliable*.

Proposal of Opening an Italian Restaurant

Opening a restaurant will increase the fixed costs of the Nikko from ZD 9 million p.a. to ZD 12 million p.a. Thus, annual increment of ZD 3 million.

Average Revenue per occupied room will rise from ZD 2,700 to ZD 3,636.36... (ZD 30 Million / 8,250 rooms) because increasing guest expenditure in Italian restaurant.

The total cost predicted at a level of 8,250 occupied rooms is ZD 23.75 million which means the variable costs must be ZD 11.75 million (ZD 23.75 million – ZD 12 million fixed costs). This is a variable cost per occupied room of ZD 1,424.24... which is an increase of ZD 524.24...

Consequently, the breakeven point has gone up from 5,000 to 5,425 (as shown in the diagram) occupied rooms so the Nikko is required to sell more room nights to cover costs. However, budgeted occupancy is now 7,310 occupied room nights which is 80.11% occupancy (7,310/ 9,125). This provides a margin of safety of 1,885 occupied room nights or 25.79%. At 7,310 occupied room nights, Nikko’s budgeted profit would be ZD 41,70,597 {7,310 × (ZD 3,636.36 – ZD 1,424.24) – 12 million} which is more than present budgeted profit by ZD 8,51,397. So, it is better for Nikko to go for opening an Italian Restaurant.

11. (i)

B. Steels

Balanced Scorecard Report

For the year ended March 31, 2022

Perspective	Objective	KPI	Goal	Actual	Goal Achieved (Yes or No)
Financial	Increase Gross Margin	Gross margin growth percentage	15%	16%	Yes

	Increase Profitability of Core Product Line	Core product line profit as a percentage of core product line sales	5%	4.4%	No
Customer	Increase number of customers	Number of Customers	15,000	15,600	Yes
	Increase customer retention	Percentage of repeat customers	83%	81%	No
Internal Business Process	Improve post sales service	Average replacement time (number of days)	2.0	1.5	Yes
	Increase plant safety	Number of plant accidents	0	2	No
Learning and Growth	Improve employee job satisfaction	Employees satisfaction rating (1-5, with 1 being the most satisfied)	1	1.2	No
	Improve employee morale	Employee turnover rate (Number of employees leaving / Average number of total employees)	2%	3%	No

- (ii) “Triple Bottom Line” concept encourages companies to measure not only their *financial profits*, but also the impact that its operations have on the *society* and *environment*. Therefore, this framework measures the full cost of doing business by measuring the following bottom lines (i) Profit (ii) People and (iii) Planet.

Diminishing non-renewable resources have forced businesses to focus on *sustainable manufacturing*. This term refers to managing manufacturing processes such that they *minimize any negative impact on the environment* by conserving energy and natural resources. In many instances, improved operational efficiency not only reduces waste (thereby costs) but also improves product safety, it strengthens the *brand’s reputation* and builds *public’s trust* about the company. As a long- term strategy, this improves *business viability* and provides a *competitive edge* to the company. This concept is the “**Planet Bottom Line**” within the Triple Bottom Line framework. Metrics on the following aspects may be investigated to find out the *environment impact* of business operations:

- Material consumption
- Energy consumption
- Water utilization
- Emissions, treatment of effluents and waste (include emissions affecting air, water, and land)
- Fuel consumption by tracking freight and transportation costs

- Land utilization
- Recyclability and disposal of product

“Corporate Social Responsibility” enables the company to become conscious of the impact its operations has on the society. CSR programs, through philanthropy and volunteer efforts can forge a stronger bond between *itself, its employees, and the wider community*. Again, this improves both the *brand image* as well as builds *public’s trust* about the company. This concept is the “**People Bottom Line**” of the Triple Bottom Line framework. Metrics on the following aspects maybe investigated to find out the *social impact* of business operations:

- Work place environment and labour relations
- Occupational health and safety, accident rates
- Human rights practices – child labour, employee work-place security policies
- Training and education
- Equal opportunity employer – diversity of workforce and opportunities available for employees’ growth
- Suppliers – local sourcing versus sourcing from external markets
- Philanthropy and volunteer programs organized
- Product safety in terms of customer health and safety
- Pricing of essential products to enable wider reach within the society
- Transparent and ethical business practices

B. Steels can study these aspects, determine the relevant metrics, and prepare periodic KPI reports that can help in measuring responsibilities towards sustainability and social impact.

12. (i) **Price to be Quoted**

	₹ / u Avg. / unit (4 units)
Variable Cost	2,000
Labour	810
Target Contribution	1,500
Price to be Quoted	4,310

- (ii) No, the company cannot quote this price for varying products because the learning curve Ratio does not apply to non-repeated jobs. Each product will carry a different price according to its direct labour hours.